October 24, 2001

Don Mueller
Dana Corporation
P. O. Box 245
Churubusco, IN 46723

Re: Registered Operation Status,
183-14790-00020

Dear Mr. Mueller:

The application from Dana Corporation, received on August 15, 2001, has been reviewed. Based on the data submitted and the provisions in 326 IAC 2-5.5, it has been determined that the following emission units, to be located at U. S. Highway 33 South, Churubusco, Indiana, is classified as registered:

(a) Two (2) natural gas-fired boilers, identified as NB 9584 and NB 3350, each with a maximum heat input capacity of 12.5 million BTU/hr.

(b) Two (2) Kiwi printers.

The following conditions shall be applicable:

Pursuant to 326 IAC 5-1-2 (Opacity Limitations) except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following:

(a) Opacity shall not exceed an average of forty percent (40%) in any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of 15 minutes (60 readings) in a 6-hour period as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor in a six (6) hour period.

Pursuant to 326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(c)), the particulate emissions from the two (2) Murray boilers, constructed before September 21, 1983, shall be limited to 0.8 lb/MMBTU.

This registration is a re-registration issued to this source. The source may operate according to 326 IAC 2-5.5.

An authorized individual shall provide an annual notice to the Office of Air Quality that the source is in operation and in compliance with this registration pursuant to 326 IAC 2-5.5-4(a)(3). The annual notice shall be submitted to:

Compliance Data Section
Office of Air Quality
100 North Senate Avenue
P.O. Box 6015
Indianapolis, IN 46206-6015

no later than March 1 of each year, with the annual notice being submitted in the format attached.

An application or notification shall be submitted in accordance with 326 IAC 2 to the Office of Air Quality (OAQ) if the source proposes to construct new emission units, modify existing emission units, or otherwise modify the source.

Sincerely,

Original Signed by Paul Dubenetzky
Paul Dubenetzky, Chief
Permits Branch
Office of Air Quality

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cc: File - Whitley County
Whitley County Health Department
Air Compliance - Ryan Hillman
Permit Tracking - Janet Mobley
Technical Support and Modeling - Michele Boner
Compliance Data Section - Karen Nowak

Registration
Annual Notification

This form should be used to comply with the notification requirements under 326 IAC 2-5.5-4(a)(3)

Company Name: Dana Corporation
Address: P. O. Box 245
City: Churubusco, IN 46723
Authorized individual:
Phone #:
Registration #: 183-14790-00020

I hereby certify that Dana Corporation is still in operation and is in compliance with the requirements of Registration 183-14790-00020.

Name (typed):
Title:
Signature:
Date:

Indiana Department of Environmental Management
Office of Air Quality

Technical Support Document (TSD) for a Registration

Source Background and Description

Source Name: **Dana Corporation**
Source Location: **U. S. Highway 33 South, Churubusco, IN 46723**
County: **Whitley**
SIC Code: **5013**
Operation Permit No.: **183-14790-00020**
Permit Reviewer: **Madhurima D. Moulik**

The Office of Air Quality (OAQ) has reviewed an application from Dana Corporation relating to the operation of Murray boilers for heat.

Emission Units and Pollution Control Equipment

The source consists of the following units:

(a) Two (2) natural gas-fired boilers, identified as NB 9584 and NB 3350, each with a maximum heat input capacity of 12.5 million BTU/hr.

(b) Two (2) Kiwi printers.

Existing Approvals

The source has been operating under previous approvals including, but not limited to, the following:

(a) CP 183-2962-00020, issued on March 25, 1993.

All conditions from this previous approval were incorporated into this permit.

The source operated under a previous approval for an oil seal manufacturing facility:

(b) 92-05-82-0051, issued December 3, 1982.

The conditions from this approval were not incorporated into this permit as the oil seal manufacturing operation does not exist anymore.

Stack Summary

Stack ID	Operation	Height (feet)	Diameter (feet)	Flow Rate (acfm)	Temperature (^{0}F)
1	Boiler	40	18	-	-
2	Boiler	40	22	-	-

Enforcement Issue

IDEM is aware that under rule 326 IAC 2-5.5-2, the deadline for the application was December 28, 2000. This matter is being referred to the Enforcement branch which will take appropriate action. This proposed permit is intended to satisfy the requirements of the operating permit rules.

Recommendation

The staff recommends to the Commissioner that the operation be approved. This recommendation is based on the following facts and conditions:

Unless otherwise stated, information used in this review was derived from the application and additional information submitted by the applicant.

An application for the purposes of this review was received on August 15, 2001. Additional information was received on September 18, 2001.

Emission Calculations

See Appendix A of this document for detailed emissions calculations.

Potential To Emit

Pursuant to 326 IAC 2-1.1-1(16), Potential to Emit is defined as "the maximum capacity of a stationary source or emissions unit to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restrictions on hours of operation or type or amount of material combusted, stored, or processed shall be treated as part of its design if the limitation is enforceable by the U. S. EPA, the department, or the appropriate local air pollution control agency."

Pollutant	Potential To Emit (tons/year)
PM	0.8
PM-10	0.8
SO_2	0.1
VOC	0.7
CO	9.2
NO_x	11

(a) The potential to emit (as defined in 326 IAC 2-7-1(29)) of all criteria pollutants are less than 100 tons per year. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(b) The potential to emit (as defined in 326 IAC 2-7-1(29)) of any single HAP and combination HAPs is negligible. Therefore, the source is not subject to the provisions of 326 IAC 2-7.

(c) The potential to emit of nitrogen oxides is greater than ten (10) tons per year and less than twenty-five (25) tons per year. Therefore, the source will be issued a registration under 326 IAC 2-5.5-2.

County Attainment Status

The source is located in Whitley County.

Pollutant	Status
PM-10	attainment
SO_2	attainment
NO_2	attainment
Ozone	attainment
CO	attainment
Lead	attainment

(a) Volatile organic compounds (VOC) and oxides of nitrogen (NOx) are precursors for the formation of ozone. Therefore, VOC emissions are considered when evaluating the rule applicability relating to the ozone standards. Whitley County has been designated as attainment or unclassifiable for ozone. Therefore, VOC and NOx emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

(b) Whitley County has been classified as attainment or unclassifiable for all other criteria pollutants. Therefore, these emissions were reviewed pursuant to the requirements for Prevention of Significant Deterioration (PSD), 326 IAC 2-2 and 40 CFR 52.21.

Federal Rule Applicability

(a) The two (2) Murray boilers each have maximum heat input rates of 12.5 MMBTU/hr, but were constructed and operated before June 9, 1989. Therefore, the New Source Performance Standards (NSPS) for small industrial-commercial-institutional steam generating units (40 CFR 60.40c, Subpart Dc) is not applicable to this source.

(b) The two (2) Kiwi printers at the source are not classified as rotogravure printing presses. Therefore, the NSPS for Publication Rotogravure Printing (40 CFR 60.430, Subpart QQ) is not applicable.

(b) The two (2) printers at this source have negligible emissions of single and combination HAPs and are not classified as rotogravure printers. Therefore, the National Emission Standards for Hazardous Air Pollutants (NESHAPs) for printing and publishing (40 CFR 63.820, Subpart KK) is not applicable.

State Rule Applicability - Entire Source

326 IAC 2-6 (Emission Reporting)

This source is located in Whitley County and the potential to emit of criteria pollutants is less than one hundred (100) tons per year. Therefore, 326 IAC 2-6 does not apply.

326 IAC 5-1 (Opacity Limitations)

Pursuant to 326 IAC 5-1-2 (Opacity Limitations), except as provided in 326 IAC 5-1-3 (Temporary Exemptions), opacity shall meet the following, unless otherwise stated in this permit:

(a) Opacity shall not exceed an average of forty percent (40%) any one (1) six (6) minute averaging period as determined in 326 IAC 5-1-4.

(b) Opacity shall not exceed sixty percent (60%) for more than a cumulative total of fifteen (15) minutes (sixty (60) readings) as measured according to 40 CFR 60, Appendix A, Method 9 or fifteen (15) one (1) minute nonoverlapping integrated averages for a continuous opacity monitor) in a six (6) hour period.

State Rule Applicability - Individual Facilities

326 IAC 6-3-2 (Process Operations)

The steam generator uses combustion for indirect heating, which is exempt from 326 IAC 6-3-2. Therefore, it is not subject to this rule.

326 IAC 6-2-3 (Particulate emission limitations for sources of indirect heating: emission limitations for facilities specified in 326 IAC 6-2-1(c))

The particulate emissions from the two (2) Murray boilers, constructed before September 21, 1983, shall be limited by the following:

$$Pt = \frac{(C \times a \times h)}{(76.5 \times Q^{0.75} \times N^{0.25})}$$

where:

C = Maximum ground level concentration with respect to distance from the point source at the "critical" wind speed for level terrain (equal to 50 mg/m3).

Pt = Pounds of Particulate matter emitted per million BTU/hr heat input.

Q = Total source maximum operating capacity rating in million BTU/hr heat input.

N = No. of stacks in fuel burning operations.

a = Plume rise factor which is used to make allowance for less than theoretical plume rise (equal to 0.67 for Q less than 1000 MMBTU/hr).

h = Stack height in feet. If a number of stacks of different heights exist, the average stack height to represent "N" stacks shall be calculated by weighing each stack height with its particulate matter emission rate as follows:

$$h = \frac{\Sigma (H * pa_i * Q) \text{ from } i = 1 \text{ to } N}{\Sigma (pa_i * Q) \text{ from } i = 1 \text{ to } N}$$

Where pa = actual controlled emission rate in lb/MMBTU using the emission factor from AP-42. Both boilers exhaust to stacks of height, h = 40 feet

Since both boilers were constructed prior to June 8, 1972, pursuant to 326 IAC 6-2-3(b), Q, N, and h shall include the parameters for all facilities in operation before 1972. The resulting Pt is the emission limitation for each facility existing on that date.

For each boiler, Pt = (50 x 0.67 x 40) / (76.5 x 11.18 x 1.19) = 1.32 lb/MMBTU

However, pursuant to 326 IAC 6-3-2(d), PM emissions from all sources used for indirect heating which existed and were in operation on or before June 8, 1972 are limited to 0.8 lb/MMBTU. Therefore, the PM emissions from the two boilers are limited to 0.8 lb/MMBTU.

The two boilers at this facility use natural gas for fuel:
PM emission = 0.0076 lb/ MMBTU which is less than Pt (=0.8 lb/MMBTU).

Therefore, the two boilers at this facility are in compliance with this rule.

Conclusion

The operation of the Murray boilers for space heating shall be subject to the conditions of the attached proposed Registration 183-14790-00020.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
Company Name: Dana Corporation
Address City IN Zip: P. O. Box 245
CP: 183-14790
Plt ID: 183-00020
Reviewer: Madhurima D. Moulik
Date: Sep 19, 2001

Heat Input Capacity MMBtu/hr	Potential Throughput MMCF/yr
25.0	219.0

	Pollutant					
	PM*	PM10*	SO2	NOx	VOC	CO
Emission Factor in lb/MMCF	7.6	7.6	0.6	100.0 **see below	5.5	84.0
Potential Emission in tons/yr	0.8	0.8	0.1	11.0	0.6	9.2

*PM emission factor is filterable PM only. PM10 emission factor is condensable and filterable PM10 combined.

**Emission Factors for NOx: Uncontrolled = 100, Low NOx Burner = 50, Low NOx Burners/Flue gas recirculation = 32

Methodology

All emission factors are based on normal firing.
MMBtu = 1,000,000 Btu
MMCF = 1,000,000 Cubic Feet of Gas

Potential Throughput (MMCF) = Heat Input Capacity (MMBtu/hr) x 8,760 hrs/yr x 1 MMCF/1,000 MMBtu
Emission Factors are from AP 42, Chapter 1.4, Tables 1.4-1, 1.4-2, 1.4-3, SCC #1-02-006-02, 1-01-006-02, 1-03-006-02, and 1-03-006-03 (SUPPLEMENT D 3/98)
Emission (tons/yr) = Throughput (MMCF/yr) x Emission Factor (lb/MMCF)/2,000 lb/ton
Note: Check the applicable rules and test methods for PM and PM10 when using the above emission factors to confirm that the correct factor is used (i.e., condensable included/not included).

See page 2 for HAPs emissions calculations.

Appendix A: Emissions Calculations
Natural Gas Combustion Only
MM BTU/HR <100
Small Industrial Boiler
HAPs Emissions
Company Name: Dana Corporation
Address City IN Zip: P. O. Box 245
CP: 183-14790
Plt ID: 183-00020
Reviewer: Madhurima D. Moulik
Date: Sep 19, 2001

HAPs - Organics

	Benzene	Dichlorobenzene	Formaldehyde	Hexane	Toluene
Emission Factor in lb/MMcf	2.1E-03	1.2E-03	7.5E-02	1.8E+00	3.4E-03
Potential Emission in tons/yr	2.300E-04	1.314E-04	8.213E-03	1.971E-01	3.723E-04

HAPs - Metals

	Lead	Cadmium	Chromium	Manganese	Nickel
Emission Factor in lb/MMcf	5.0E-04	1.1E-03	1.4E-03	3.8E-04	2.1E-03
Potential Emission in tons/yr	5.475E-05	1.205E-04	1.533E-04	4.161E-05	2.300E-04

Methodology is the same as page 1.

The five highest organic and metal HAPs emission factors are provided above.
Additional HAPs emission factors are available in AP-42, Chapter 1.4.

Appendix A: Emissions Calculations
Kiwi Printers
Company Name: Dana Corporation
Address City IN Zip: P. O. Box 245, Churubusco, IN 46723
CP: 183-14790
Plt. ID: 183-00020
Reviewer: Madhurima D. Moulik
Date: September 19, 2001

		HAPs	
Maximum Ink and Conditioner Usage:	**VOC Content:**	**Ethylene Glycol**	**Methanol, Methyl Isobutyl Ketone**
Ink # 3: 4 gal per year	Ink # 3: 7.66 lb/gal		
Ink #4: 6 gal per year	Ink # 4: 6.29 lb/gal	Ink # 4: 0.88 lb/gal	
Conditioner: 30 gal per year	Conditioner: 6.62 lb/gal		Negligible

Potential To Emit (PTE) of VOCs

Ink # 3 = 4 gal/yr x 7.66 lb/gal / 2000 lb per ton = 0.015 tons/yr

Ink # 4 = 6 gal/yr x 6.29 lb/gal /2000 lb per ton = 0.019 tons/yr

Conditioner = 30 gal/yr x 6.62 lb/gal / 2000 lb per ton = 0.1 tons/yr

PTE of VOCs = (0.019 + 0.1) tons/yr = 0.12 tons/yr

PTE of HAPs/ Combination HAPs is negligible

Potential To Emit (PTE) of HAPs
Ethylene Glycol

= 0.88 lb/gal x 6 gal/yr /2000 lb/ton = 0.003 tons/yr

Appendix A: Emissions Calculations
Total Emissions

Company Name: Dana Corporation
Address City IN Zip: P. O. Box 245
CP: 183-14790
Plt ID: 183-00020
Reviewer: Madhurima D. Moulik
Date: Sep 19, 2001

Emissions in Tons per Year

Equipment	PM	PM-10	SO2	NOx	VOC	CO	Hexane	Comb. HAP
Murray Boilers	0.8	0.8	0.1	11	0.6	9.2	0.2	0.2
Printers					0.12			
PTE (tonsper yr)	**0.8**	**0.8**	**0.1**	**11**	**0.72**	**9.2**	**0.2**	**0.2**